



Monday, July 25, 1999 10:42 AM

HTCC#1.seq.mpd. (1 > 1200) Site and S' Inca

Enzymes: All 515 enzymes (No Filler)

Inserts: Circular, Certain Sites Only, Standard Genetic Code

CAGGCATGAGCAGAGCGCTTCATCATCGATCCAAAGCATCAGTCCGATTGACGGCTTGACGACCTTCTGGGGATTGGATTACCCAAACCAAGGGGGTATCGT
GTCCGCTACTCGTCTCGCAAGTAGTAGCTAGGTTCCTAGTCACGGTAACGCGGAACATGCTGGAAGACCCCTAACCTTATCGGTTGGTTCCCCCATAGGA 100

HTCC-1 FL
N S R A F I I O P T I S A I O G L Y O L L G I G I P N O G G I L

TTACTCTCACTAGAGTACTTCGAAAAAGCCCTGGAGGAGCTGGCAGCAGCGTTTCGGGTGATGGCTGGTTAGGTTGGCCGGCGGACAAATACGCCCGC
AATGAGGAGTGATCTCATGAAGCTTTTTCGGGACCTCTCTGACGGCTGCTGCGAAAGGCCCACTACCGACCAATCCAAGCCGGCGCTGTTTATCGCGCCG 200

HTCC-1 FL
Y S S L E Y F E K A L E E L A A A F P G D G W L G S A A D X Y A G
AAAAACCGCAACCACGTGAATTTTTCCAGGAACCTGGCAGACCTCGATCGTEAGCTCATCAGCCTGATCCACGACCAAGCCGGTCCAGACGACCC
TTTTTGGCGTTGGTGCACTTAAAAAGGTCTTACCGCTCTGGAGCTAGCAGTCTGAGTAGTGGGACTAGGTGCTGGTTCGGTTCGCCAGGTCGCTGGG 300

HTCC-1 FL
K N R N H V N F F Q E L A O L O R O L I S L I H O Q A N A V C T T
GCGACATCCTGGAGGGCGCAAGAAAGGTCTCGAGTTCGTGCGCCGGTGGCTGTGGACCTGACCTACATCCCGGTCTGCGGCACGCCCTATCGGCCCG
CGCTGTAGGACCTCCCGCGGTTCTTTCCAGAGCTCAAGCACGCGGCCACCGACCTGGACTGGATGTAGGGCCAGCAGCCCGTGGGGATAGCCGGCG 400

HTCC-1 FL
R O I L E G A X K G L E F V R P V A V O L T Y I P V V G H A L S A A
CTTCCAGGCGCGGTTTTTCGCGGGCGCGATGGCCGTAGTGGCGCGCGCTTGCTTACTTGGTCTGAAAACGCTGATCAACGCGACTCAACTCCTCAA
GAAGGTCCGCGCGCAAAACGCGCGCGCTACCGGCATCACC CGCGCGCGGAACGGATGAACCAGCACTTTTGGGACTAGTTGCGCTGAGTTGAGGAGTTT 500

HTCC-1 FL
F Q A P F C A G A N A V V G G A L A Y L V V K T L I N A T Q L L K
TTGCTTGCCAAATTGGCGGAGTTGGTCGCGCGCGCCATTGCGGACATCATTTGCGATGTGGCGGACATCATCAAGGGCACCTCGGAGAAGTGTGGGAGT
AACGAACGGTTTAACCGCTCAACCAGCGCGCGCGTAACGCCGTGTAGTAAAGCCTACACGCTGTAGTAGTTCCCGTGGGAGCCTCTTACACCCTCA 600

HTCC-1 FL
L L A K L A E L V A A A I A O I I S O V A O I I K G T L G E V W E
TCATCAAAACGCGCTCAACGGCTGAAAGAGCTTTGGGACAAGCTCACGGGGTGGGTGACCGGACTGTTCTCTCGAGGGTGGTCAACCTGGAGTCCTT
AGTAGTGTTCGCGGAGTTGCCGGACTTTCTCGAAACCTGTCGAGTGCCCCACCCACTGGCTGACAAGAGAGCTCCACACAGCTTGGACCTCAGGAA 700

HTCC-1 FL
F I T N A L N G L K E L W D K L T G W V T G L F S R G W S N L E S F
CTTTGCGGGCGTCCCGGCTTGACCGGCGCGACAGCGGCTTGTCGCAAGTGACTGGCTTGTTCGGTGGCGCGGCTGTGTCGCATCGTGGGCTTGGCT
GAAACGCGCGCAGGGGCGAACTGGCGCGCTGGTTCGCGAACAGCGTTCACTGACCGAACAGCCACGCGCGCCAGACAGGCTAGCAGCCCGAACCGA 800

HTCC-1 FL
F A G V P G L T G A T S G L S O V T G L F G A A G L S A S S G L A

Fig. 6

sheet 1 of 2

Monday, July 25, 1999 10:42 AM

Page 2

TCC#1.sec.mcd.(1 > 1200) Site and 3

CACGCGGATAGCCTGGCGAGCTCAGCCAGCTTSCSCSCCTSSCEGGCATTSGGGGCGCGCTCCGCTTTSCGGCGCTTSCCGAGCCTCGGCTCAGGTCCATG
GTGCGCTATCGGACCGCTCGAGTCGGTCCGAACSGGCGGACCGCGCTAACCCCGCCAGGCCAAAACCCCGAACCGCTCGGACCGAGTCCAGGTAC

900

HTCC-1 FL

H A D S L A S S A S L P A L A G I G G G S G F G G L P S L A Q V H

CCGCCTCAACTCGGCAGGCGCTACGGCCCCGAGCTGATGGCCCGGTGGGCGCGCTGCCGAGCAGGTGGGCGGCGAGTCCGAGCTGGTCTCCGCGCAGGG
GGCGGAGTTGAGCGCTCCGCGATGCCGGGGCTCGACTACCGGGCCAGCCGCGGCGACGGCTCGTCCAGCCGCCCTCAGCGTCGACCAGAGGCGCGTCC

1000

HTCC-1 FL

A A S T R Q A L R P R A D G P V G A A A E Q V G G Q S Q L V S A Q G

TTCCCAAGCTATGGGCGGACCCGTAGGCATGGCGGCATGCACCCCTCTTCGGGGGCGTGGAAAGGGACGACGACGAAGAAGTACTCGGAAGCGCGGGCG
AAGGGTTCCATACCGCGCTGGGCATCCGTACCCGCGTACGTGGGGAGAAGCCCCCGCAGCTTTCCCTGCTGCTCTTCTTCATGAGCCTTCCGCGCCCG

1100

HTCC-1 FL

S Q G H G G P V G H G G H H P S S G A S K G T T T X X Y S E G A A

GCGGGCACTGAAGACGCCGAGCGCGGCCAGTCGAAGCTGACGGGGCGGTGGGCAAAAGGTGCTGGTACGAAACSTCGTCTAACGGCATGGCGAGCCAA
CGCCCGTGACTTCTGCGGCTCGCGCGCGGTGAGCTTCGACTGCGCGCGCCACCEGTTTTCCACGACCATGCTTTGCAGCAGATTGCCGTACCGCTCGGTT

1200

HTCC-1 FL

A G T E D A E R A P V E A D A G G G Q K V L V R N V V

FIG. 6

Sheet 2 of 2

Monday, July 25, 1999 10:49 AM
TCC1(1:232) Map.mpd (1 > 726) Site Seq
Enzymes: 212 of 515 enzymes (Filtered)

HTCE-1 (1-22x)

Page 1

Settings: Linear, Certain Sites Only, Standard Genetic Code

```
ATGCATCACCATCACCATCACATGAGCAGAGCGTTCATCATCGATCCAACGATCAGTGGCATTCACGGCTTGTACGACCTTCGCGGATGGAATACCCA 100
TACGTAGTGGTAGTGGTAGTGTACTCGTCTCGCAAGTAGTAGCTAGGTTGCTAGTCACGGTAACCTGCCGAACATGCTGGAAGACCCCTAACCTTATGGCT
M H H H H H H H S R A F I I O P T I S A I O G L Y O L L G I G I P
ACCAAGGGGGTATCCTTTACTCTCACTAGAGTACTTCGAAAAAGCCCTGGAGGAGCTGGCAGCAGCGTTTCGCGGTGATGGCTGGTTAGGTTTCGCGCCG 200
TGGTTCCCCCATAGGAAATCAGGAGTGTATCTCATGAAGCTTTTCGGGACCTCTCTGACCGTCTGCGCAAGGCCCACTACCGACCAATCCAAGCCGGCG
N O G G I L Y S S L E Y F E X A L E E L A A A F P G O G W L G S A A
GGACAAATACGCCCGGCAAAAAACCGCAACACGTGAATTTTTCCAGGAACCTGGCAGACCTCGATCTGTAGCTCATCAGCTTGATCCAGCAGGCCAAC 300
CTGTGTTATGCGCGCGTTCCTTGGCGTTGGTGCACCTTAAAAAAGGTCCTTGACCGTCTGGAGCTAGCAGTCCAGTAGTGGACTAGGTGCTGGTCCGGTTG
O K Y A G K N R N H V N F F O E L A O L D R O L I S L I H O O A N
GCGGTCCAGACGACCGCGACATCCTGGAGGGCGCCAAGAAAGTCTCGAGTTCGTGCGCCCGGTGGCTGTGGACCTGACCTACATCCCGGTCTGCGGGC 400
CGCCAGGTCTGCTGGCGCTGTAGGACCTCCCGCGTTCCTTCCAGAGCTCAAGCAGCGCGGCCACCGACACCTGGACTGGATGTAGGGCCAGCAGCCCG
A V Q T T R O I L E G A X X G L E F V R P V A V O L T Y I P V V G
ACGCCCTATCGGCCGCTTCAGGGCGCGTTCGCGGGCGCGGATGGCGTAGTGGGCGCGCGCTTGCCCTACTTGGTGGTGAAGACGCTGATCAACGC 500
TGCGGGATAGCCCGCGGAAGTCCGCGGCAAAACGCGCCCGCTACCGGCATCACCGCGCGCGGAACGGATGAACAGCACTTTTGGGACTAGTTGGG
H A L S A A F O A P F C A G A M A V V G G A L A Y L V V K T L I N A
GACTCAACTCTCAAAATGCTTGCCAAATGGCGGAGTGGTTCGCGGCGGCCATTGCGGACATCATTCGGATGTGGCGGACATCATCAAGGGCATCCTC 600
CTGAGTTGAGGAGTTTAACGAACGGTTTAACCGCTCAACCAGCGCGCGGTAACGCGCTGTAGTAAAGCCTACACCGCCTGTAGTAGTTCCCGTAGGAG
T O L L X L L A X L A E L V A A A I A O I I S O V A O I I X G I L
GGAGAAGTGTGGGAGTTCATCACAACCGGCTCAACGGCTGAAAGAGCTTTGGGACAAGCTCACGGGTGGGTGACCGGACTGTTCTCTCGAGGGTGGT 700
CCTCTTCACACCTCAAGTAGTGTTCGCGGAGTTGCGGACTTTCTCGAAACCTGTTCGAGTGCCTCCACCACTGGCCTGACAACAGAGCTCCACCA
G E V W E F I T N A L N G L X E L W O X L T G W V T G L F S R G W
CGAACCTGGAGTCTTCTAAGATTC 726
GCTTGGACCTCAGGAAGATTCTTAAG
S N L E S F E F
```

FIG. 7a

Monday, July 25, 1999 10:50 AM

HTCC-1 (184-572)

Page

HTCC1(184-392) Map.mpd (1 > 381) 51 125 1000

Enzymes: 212 of 515 enzymes (Filtered)

Settings: Linear, Certain Sites Only, Standard Genetic Code

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ATGCATCACCATCACCATCAGATGTGGCGGACATCATCAAGGGCATCTCGGAGAAGTGTGGGAGTTTCATCAAAACGGCTCAACGGGCTGAAAGACC 100
TACGTAGTGGTAGTGGTAGTGCTACACCGCTGTAGTAGTTCCCGTAGGAGCCTCTTCACACCCTCAAGTAGTGTTCGGCGAGTTGCCGGACTTTCTCG
M H H H H H H O V A O I I X G I L G E V W E F I T N A L N Q L X E
TTTGGGACAAGCTCACGGGGTGGGTGACCGGACTGTTCTCTCGAGGGTGGTGAACCTGGAGTCCTTCTTTGGCGCGCTGCCCGGCTTGACCGGCGCGAC 200
AAACCCCTGTTTCGAGTGCCCCACCCACTGCGCTGACAAAGAGAGCTCCACACAGCTTGGACCTCAGGAAGAAACCGCCCGGCGGCGAATCGCCGCGCTG
L W O X L T G W V T G L F 3 R G W S N L E S F F A G Y P G L T G A T
CAGCGGCTTGTGCAAGTGACTGGCTTGTTCGGTGGCGCGGCTGTGTCGGCATGTCGGGCTTGGCTCACGGCGATAGCCTGGCGAGCTCAGCCAGCTTG 300
GTGCGCGAACAGCGTTCACTGACCGAACAAGCCACGCGCGCCAGACAGGCGTAGCAGCCCGAACCAGAGTGGCGCTATCGGACCGCTCGAGTCGGTCTGAAC
S G L S O Y T G L F G A A G L S A S S G L A H A O S L A S S A S L
CCCGCCCTGGCGCGCATTTGGGGCGGGTCCGGTTTTTGGGGCTTGGCGAGCCTGGCTCAGGTCCATGCCGCTCAACTGGCGAGGCGCTACCGCCCCGAG 400
GGGCGGGACCGCGCTAACCCCCGCGCCAGGCCAAACCCCGAAGCGCTCGGACCGAGTCCAGGTACGGCGGAGTTGAGCCGTCCCGCATGCCGGGGCTC
P A L A G I G G G S G F G G L P S L A O V H A A S T R O A L R P R
CTGATGGCCCCGTGGCGCGGCTGCCGAGCAGGTCCGGCGGCGAGTCCGACGTGGTCTCCGCGCAGGGTTCCCAAGGTATGGCGGACCCGTAGGCATGGG 500
GACTACCGGGCCAGCGCGCGGACGGCTCGTCCAGCGCGCGCTCAGCGTCGACCGAGGCGCGTCCCAAGGGTTCCATACCGCGCTGGGCATCCGTACCC
A D G P V G A A A E O Y G G O S O L V S A O G S O G H G G P V G H G
CGGCATGCACCCCTCTTCGGGGGCGTGAAGGGGACGACGAGGAAGTACTCGGAAGGGCGGCGCGCGGCGGCGCTCAAGACGCGGAGCGCGCGGCGAGTC 600
GCGGTACGTGGGGAGAAGCCCCCGCAGCTTTCCTGCTGCTGCTTCTTCATGAGCCTTCCGCGCGCGCGCGCGGTGACTTCTCGGGCTCGCGCGCGGTGAG
G H H P S S G A S K G T T T K X Y S E G A A A G T E O A E R A P V
GAAGCTGACCGGGCGGTGGGCAAAAGGTGCTGTAAGAAAGTCTGTAACGGCGAATTC
CTTCGACTGCGCGCGCCACCGTTTTTCCACGACCATGCTTTGACGACAGATTGCCGCTTAAG 861
E A O A G G O X V L Y R N V V R R I
```

FIG. 7b

onday, July 26, 1999 10:48 AM

H1C-1 (1-123)

Page 1

TCC1(1-129) Map.MPO (1 > 411) d sequence

enzymes: All 515 enzymes (No Filter)

settings: Circular, Certain Sites Only, Standard Genetic Code

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ATGCATCACCATCACCATCACATGAGCAGAGCGTTCATCGATCCAACGATCAGTGGCATTGACGGCTTGATCCACCTTCTGGGGATTGG
TACGTAGTGGTAGTGGTAGTGTACTCGTCTCGCAAGTAGTAGCTAGGTTGCTAGTCACGGTAACTGCCGAACATGCTGGAAGACCCCTAACC
N H H H H H H M S R A F I I O P T I S A I O G L Y C L L G I G
AATACCCAACCAAGGGGGTATCCTTTACTCTCACTAGAGTACTTCGAAAAAGCCCTGGAGGAGCTGGCAGCAGCGTTTCCGGGTGATGGCT
TTATGGGTTGGTTCCCCCATAGGAAATGAGGAGTGATCTCATGAAGCTTTTTCCGGACCTCTCGACCGTCTCGCAAAGGCCCACTACCGA
I P N O G G I L Y S S L E Y F E X A L E E L A A A F P G D G
GGTTAGGTTCCGGCCGCGGACAAATACGCCGGCAAAAACCGCAACCACGTGAATTTTTCCAGGAAGTGGCAGACCTCGATCGTCAGCTCATC
CCAATCCAAGCCGGCGCCTGTTTATGCGGCCGTTTTGGCGTTGGTGCACTTAAAAAAGGTCCTTGACCGTCTGGAGCTAGCAGTCGAGTAG
W L G S A A D X Y A G X N R N H V N F F Q E L A O L D R O L I
AGCCTGATCCACGACCAGGCCAACGCGGTCCAGACGACCCGCGACATCCTGGAGGGCGCCAAGAAAGGTCTCGAGTTTCGTGCGCCCGGTGGC
TCGGACTAGGTGCTGGTCCGGTTGCGCCAGGTCTGCTGGGCGCTGTAGGACCTCCCGCGGTTCTTTCCAGAGCTCAAGCACGCGGGCCACCG
S L I H D O A N A V O T T R O I L E G A X K G L E F V R P V A
TGTGGACCTGACCTACATCCCGGTGCTCGGGCACGCCCTATAG
ACACCTGGACTGGATGTAGGGCCAGCAGCCCGTCCGGGATATC
V O L T Y I P V V G H A L
```

FIG. 7c

Monday, July 26, 1999 10:48 AM

Ka12-H2CC-1

Page

20000726.1 (1 > 1629) Site and ...

Enzymes: All 5'3' ends (No Filter)

Settings: Linear, Certain Sites Only, Standard Genetic Code

CATATGCATCACCATCACCATCACACGGCGCGCTCCGATAACTTCCAGCTGTCCAGGGTGGGCAGGGATTCCGCATTCCGATCCAGGCGCATGCCGA
GTATACGTAGTGGTAGTGGTAGTGTGCCGGCGCAGGCTATTGAAGGTGACAGGGTCCACCCGCTCCCTAAGCGGTAAAGGCTAGCCCGTCCGCTACCGCT
Met/HIS TAG Ra12
H H H H H H H H T A A S D N F Q L S Q G G Q G F A I P I G O A M A
TCGCGGGCCAGATCCGATCGGGTGGGGGTACCCACCGTTCATATCGGGCTTACCGCTTCTCTCGGCTTGGGTGTTGTGACAAACAGGCAACGGCGC
AGCGCCCGGTCTAGGCTAGCCACCCCGTGGGTGGCAAGTATAGCCCGGATGGCGGAAGGAGCCGAACCCACAACAGCTGTGTGTGCCGTTGCCGCG
Ra12
I A G O I R S G G G S P T V H I G P T A F L G L G V V D N N G N G A
ACGAGTCCAACCGGTGGTGGGAGCGCTCCGGCGGCAAGTCTCGGCATCTCCACCGCGGACGTGATCACCGCGGTGACGGCGCTCCGATCAACTCGGCC
TGCTCAGGTTCCGACACCGCTCCGAGGCGCGCTTCAGAGCGTAGAGGTGGCGCTGCACTAGTGGCGCCAGCTGCCGCGAGGCTAGTTGAGCCG3
Ra12
R V Q R V V G S A P A A S L G I S T G D V I T A V O G A P I N S A
ACCGCGATGGCGGACCGCTTAACGGGCATCATCCCGGTGACGTATCTCGGTGACCTGGCAACCAAGTCCGGCGGCAACCGCTACAGGGAACGTGACAT
TGGCGCTACCGCTGCGCGAATTGCCCGTAGTAGGCGCACTGCAGTAGAGCCACTGGACCGTTTGGTTACGCGCGCGGTGGCGATGTCCCTTGCACTGTA
Ra12
T A M A D A L N G H H P G D V I S V T W O T K S G G T R T G N V T
TGGCGGAGGGACCCCGGCGGAATTCCTAGTACCTAGAGGTTCAATGAGCAGAGCGTTTCATCATCGATCCAACGATCAGTGCCATTGACGGCTTGTACGA
ACCGGCTCCCTGGGGCGCGCTTAAGGATCATGGATCTCCAAAGTACTCGTCTCGCAAGTAGTAGCTAGGTTGCTAGTCACGGTAACGCGCAACATGCT
Ra12 EcoRI Thrombin HTCC1
L A E G P P A E F L V P R G S H S R A F I I D P T I S A I D G L Y O
CCTTCTGSGGATTGGAATACCAACCAAGGGGTATCCTTTACTCCTCACTAGAGTACTTCGAAAAAGCCCTGGAGGAGCTGGCAGCAGCGTTTCCGGGT
GGAAGACCCCTAACCTTATGGGTTGGTTCCCCATAGGAATGAGGAGTGATCTCATGAAGCTTTTTCGGGACCTCTCGACCGTCTGCAAGGCCCA
HTCC1
L L G I G I P N G G G I L Y S S L E Y F E X A L E E L A A A F P G
GATGGCTGGTTAGGTTGGCGCGGACAAATACCGCGGCAAAACCGCAACCAAGTGAATTTTTTCCAGGAACCTGGCAGACCTCGATCGTCAGCTCATCA
CTACCGACCAATCCAAGCGCGCGCTTTTATGCGGCGGTTTTGGCGTGGTGCACTTAAAAAGGTCTTTGACCGTCTGGAGCTAGCAGTCTGAGTAGT
HTCC1
D G W L G S A A D K Y A G K N R N H V N F F O E L A D L O R O L I
GCCTGATCCACGACCGCCCAACGCGGTCCAGACGACCCCGACATCTGGAGGGCGGCCAAGAAAGTCTCGAGTTCTGCGCCCGGTGGCTGTGGACCT
CGGACTAGGTGCTGGTCCGTTGCGCCAGGTCTGCTGGGCGCTGTAGGACCTCCCGCGGTTCTTTCCAGAGCTCAAGCACGCGGCCACCGACACTGGA
HTCC1
S L I H D O A N A V O T T R D I L E G A K K G L E F V R P V A V O L
GACCTACATCCCGGTCTGTCGGGACCGCCCTATCGGCGGCTTCCAGGCGCGCTTTTTCGGCGGGCGCGATGGCGGTAGTGGCGCGCGGCTTCCCTACTTG
CTGGATGTAGGGCCAGCAGCCCGTGGGGATAGCCGGCGGAAGTCCCGCGGCAAAACGCGCGCGGCTACCGGCATACCCCGCGCGGCAACGGATGAAC
HTCC1
T Y I P V V G H A L S A A F O A P F C A G A H A V V G G A L A Y L

FIG. 8

Sheet 1 of 2

enday, July 25, 1999 10:48 AM

2(Thr)hTCC1.mod (1 > 1829) Site and S

Page 2

ATCGTGA AAAACGCTGATCAACGCGACTCAACTCCCAAAATTGCTTGGCAAATTGGCGGAGTTGGTCGCGCGCCGCAATTGCGGACATCATTTCCGATGTGG
TAGCACTTTTTCGACTAGTTGCGCTGAGTTGAGGAGTTTAAACGAACGGTTTAAACCGCTCAACCAAGCGCGCGGTAACGCTGTAGTAAAGCCTACACC 1000
hTCC1
V V X T L I N A T Q L L K L L A X L A E L V A A A I A O I I S O V
CGGACATCATCAAGGGCATCTCTCGGAGAGTGTGGGAGTTTCATCACAACCGGCTCAACGGCTGAAAGAGCTTTGGGACAAGCTCACGGGGTGGCTCAC
GCTGTAGTAGTTCCCGTAGGAGCCTCTTCACACCTCAAGTACTGTTTGGCGGAGTTGGCGGACTTTCTCGAAACCTGTTCGAGTGCCCCACCCACTG 1100
hTCC1
A O I I X G I L G E V W E F I T N A L N G L X E L W O X L T G W V T
CGGACTGTCTCTCGAGGGTGGTCGAACCTGGAGTCTCTTTTGGGGGCTCCCCGGCTTCACCGCGCGGACCAAGCGGCTTGTGCAAGTGACTGGCTTG
GCTGACAAGAGAGCTCCACCAAGCTTGGAGCTCAGGAAGAAACGCGCGAGGGGCGAATGGCGCGCTGCTGCGCGAACAGCGTTCACTGACCGAAC 1200
hTCC1
G L F S R G W S N L E S F F A C V P G L T G A T S G L S O V T C L
TTCGGTGGGCGCGTCTGTCCGCTCGTGGGCTTGGCTCAGCGGATAGCTTGGCGAGCTCAGCCAGCTTGGCGCGCTGGCGGCAATTGGGGGGGGGT
AAGCCACGCGCGCGAGACAGGGCTAGCAGCGCGAACCAGTGGCGCTATCGGACCGCTCGAGTGGTTCGAAACGGCGGGACCGCGCTAACCCCGCGCCA 1300
hTCC1
F G A A G L S A S S G L A H A O S L A S S A S L P A L A G I G G G
CCGGTTTGGGGGCTTGGCGAGCTGGCTCAGGTCCATGCCCTCAACTCGGCAGGCGCTACGGCGCGAGCTCATGCCCCGCTCGCGCGCTGCCCCA
GGCCAAAACCCCGAAGCGCTCGGACCGAGTCCAGGTACGGCGGAGTTGAGCGCTCCGCGATGCGCGGCTCCACTACCGGCGAGCGCGCGGACGGCT 1400
hTCC1
S G F G G L P S L A Q V H A A S T R Q A L R P R A O G P V G A A A E
GCAGGTGCGCGCGGAGTCGCAGCTGGTCTCCGCGCAGGTTCCCAAGGTATGGCGGACCGCTAGGCATGGGCGGATGCACCCCTCTTGGGGGGCTCG
CGTECAGCGCGCGCTCAGCGTCGACCAAGAGCGCGTCCCAAGGTTCCATACCGCTGGGCATCCGTACCGCGCTACGTGGGGACAAGCCCCCGCAGC 1500
hTCC1
Q V G G O S O L V S A O G S O G N G G P V G N G G H H P S S G A S
AAAGGACGACGAAGAAGTACTCGGAAGCGCGCGCGGCGGCACTGAAGACCGCGAGCGCGCGCTAGTCGAAGCTGACGCGGGCGGTGGGCAAAAGG
TTTCCCTGCTGCTGCTTCTTCATGAGCTTCCGCGCGCGCGCGGTGACTTCTGCGGCTCGCGCGCGGTGAGCTTCGACTGCGCGCGCCACCGTTTTC 1600
hTCC1
X G T T T K K Y S E G A A A G T E D A E R A P V E A D A G G G O K
TGCTGTACGAAACGTCGTCTAAGAATTC
ACGACCATGCTTTGCAGCAGATTCTTAAG 1629
hTCC1 EcoRI
V L V R N V V E F

FIG. 8

Sheet 2 of 2

Thursday, July 22, 1999 1:35 PM

TCC1(-TO.1).mpd (1 > 1225) Site and S

Enzymes: 2 of 515 enzymes (Filtered)

Settings: Linear, Certain Sites Only, Standard Genetic Code

HTCC-1 (T.M.1)

Page 1

CAATATGCATCACCATCACCATCACATGAGCAGAGCGTTCATCATCGATCCAACGATCAGTGCCATTGACGGCTTGTACGACCTTCTGGGGATTGGAATAC
GTATACGTAGTGGTAGTGGTAGTGTACTCGTCTCGCAASTAGTAGTAGTGTGCTAGTACCGGTAACGCGCAACATGCTGGGAAGACCCCTAACCTTATG
| Mel / HIS TAG | | HTCC1 |
H H H H H H H H M S R A F I I O P T I S A I O G L Y O L L G I G I
CCAACCAAGGGGGTATCCTTTACTCTCTACTAGAGTACTTTCGAAAAAGCCCTGGAGGAGCTGGCAGCAGCGTTTCCGGGTGATGGCTGGTTAGGTTCCGC
GGTTGGTTCCCCATAGGAAATGAGGAGTGATCTCATGAAGCTTTTTCGGGACCTCCTCGACCGTCTGTCGAAAGGCCCACTACCGACCAATCCAAGCCG
| HTCC1 |
P N O G G I L Y S S L E Y F E K A L E E L A A A F P G O G W L G S A
CGCGGACAAATACCGCGGCAAAAACCGCAACCACGTGAATTTTTCAGGAACCTGGCAGACCTCGATCGTCAGCTCATCAGCTGATCCACGACAGGCGC
GGCGCTGTTTATCCCGCGTITTTGGCGTTGGTGCACCTTAAAAAGGTCTTACCGCTCTGGAGCTACCACTCCAGTACTCCGACTAGCTGCTGGTCCGG
| HTCC1 |
A O K Y A G K N R N H V N F F O E L A O L D R O L I S L I H D O A
AACGGGTCCAGACGACCCCGGACATCCTGGAGGGCGCCAAGAAAGGTCTCGAGTTCGTGCGCCCGGTGGCTGTGGACCTGACCTACATCCCGGTGGTGG
TTGCGCCAGGTCTGCTGGGGCGCTGTAGGACCTCCCGCGGTCTTTCCAGAGCTCAAGCACGCGGGCCACCGACACCTGGAGTGGATGTAGGGCCAGCAGC
| HTCC1 |
N A V Q T F R O I L E G A X K G L E F V R P V A V O L T Y I P V V
GSCACGCCCTATCGGCCGCTTCCAGGCGCGTITTTGCGCGCGCGCGATGGCGGTAGTGGGCGCGCGCTTAAGCTTGCTACTTGGTCTGTGAAAACGCT
CCGTGCGGGATAGCCGGCGGAAGGTCCGCGGCAAAAACGCGCGCGCTACCGGCAATCACC CGCGCGCGAATTCGAACGGATGAACCAGCACTTTGGGA
| HTCC1 | | Hind3 | DELETED
G H A L S A A F O A P F C A G A N A V V G G A L X L A Y L V V X T L
GATCAACCGGAAGCTTACTCAACTCCTCAAATTGCTTGCCAAATTTGGCGGAGTGGTTCGCGCGCGCCATTGCGGACATCATTTGCGGATGTGGCGGACATC
CTAGTTGGCTTCGAATGAGTTGAGGAGTTTAACGAACGGTTTAACCGCTCAACGAGCGCGCGCGGGAACGCTGTAGTAAAGCCTACACCGCTGTAG
| DELETED | | Hind3 | | HTCC1 |
I N A K L T O L L X L L A X L A E L V A A A I A O I I S D V A O I
ATCAAGGGCATCCTCGGAGAAGTGTGGGAGTTCATCACAACCGCGCTCAACGGCTTGAAGAGCTTTGGGACAAGCTCACGGGGTGGGTGACCGGACTGT
TAGTTCCCGTAGGAGCCTCTTCACACCTCAAGTAGTGTGGCGGAGTTGCCGGACTTTCTCGAAACCTGTTTCGAGTGCCCCACCACTGGCGCTGACA
| HTCC1 |
I K G I L G E V W E F I T N A L N G L K E L W O K L T C W V T G L
TCTCTCGAGGGTGGTCCAACCTGGAGTCTCTTTTGGCGGGCTCCCCGCTTGACCGGCGCGACAGCGGCTTGTGCGAAGTCACTGCCTTGTTCGGTGC
ACAGAGCTCCACACAGCTTGGACCTCAGGAAGAAACGCGCGAGGGGCGGAACCTGGCGCGCTGGTTCGCGAACAGCGTTCACTGACCGAACAAGCCAGC
| HTCC1 |
F S R G W S N L E S F F A G V P G L T G A T S G L S O V T G L F G A
GGCGGCTCTGTCGCATCGTGGGCTTGGCTCACCGCGATAGCTTGGCGAGCTCAGCCAGCTTGCCCGCCCTGGCGGGCATTTGGGGGCGGGTCCGGTTTT
CCGGCCAGACAGGCGTAGCAGCCCGAACCGAGTGCGCTATCGGACCGCTCGAGTGGTTCGAACGGGCGGGACCGGCGTAACCCCGCCAGGCCAAAA
| HTCC1 |
A G L S A S S G L A N A O S L A S S A S L P A L A G I G G G S G F

FIG. 9a

Thursday, July 22, 1999 1:35 PM

Page 2

FCC1(-TD.1).mod (1 > 1225) Site and S an

3GGGGCTTGCCGAGCCTGGCTCAGGTCCATGCCGCTCAACTGGGCAAGGCGCTACGGCCCCGAGCTGATGGCCGCGTCCGGCGCGCTGCCGAGCAGGTCC
CCCCGAACGGCTCGGACCGAGTCCAGGTACGGCGGAGTTGAGCCGTCCGCGATGCCGGGGCTCGACTACCGGGCCAGCCCGGGGACGGCTCGTCCAGC

1000

hTCC1

G G L P S L A Q V H A A S T R Q A L R P R A Q G P V G A A A' E Q V

GGGGGAGTCGCAGCTGGTCTCCGCGCAGGTTCCCAAGGTATGGCGGAGCCGTAGGCATGGGCGGCATGCACCCCTCTTCGGGGGCGTCGAAAGGCGAC
CGCCCGTCAGCGTCGACCAGAGGCGGTCCCAAGGTTCCATACCGGCTGGGCAATCCGTACCCGCGGTACGTGGGAGAAGCCCCCGCAGCTTTCCTG

1100

hTCC1

G G Q S Q L V S A Q G S Q G M G G P V G M G G M H P S S G A S K G T

GACGACGAAGAAGTACTCGGAAGGCGCGGGCGGGCACTGAAGACGCCGAGCGCGGCCAGTCGAAGCTGACGCGGGCGGTGGGCAAAAGGTGCTGGTA
CTGCTGCTTCTTCATGAGCCTTCGCGCGCGCGCGCGGTGACTTCTGCGGCTCGCGCGCGGTACGCTTCGACTGCGCGCGCCACCCGTTTTCCAGGACCAT

1200

hTCC1

T T K K Y S E G A A A G T E Q A E R A P V E A Q A G G G Q K V L V

CGAAACGTCGTCTAACGGCGAATTC

1225

GCTTTGCAGCAGATTGCCGCTTAAG

hTCC1

EcoRI

R N V V . R R I

FIG. 9a

Friday, July 23, 1999 8:41 AM

HTCC1(H)-TM2 Map.MPD (1 > 1225)

Enzymes: 1 of 515 enzymes (Filter)

Settings:

Circular, Certain Sites Only, Standard Genetic Code

Sequence

HTCC-1 (1H-2)

Page 1

CATATGCATCACCATCACCATCACATGAGCAGAGCGTTTCATCATCGATCCAACGATCAGTGCCATCGACGGCTTGACGACCTTCTGGGGA
91
GTATACGTAGTGGTAGTGGTAGTGTACTCGTCTCGCAAGTAGTAGCTAGGTTGCTAGTACCGGTAAGTGGCGAATGCTGGAAGACCCCT
HTCC1
M M H H H H H H M S R A F I I O P T I S A I O G L Y O L L G
TTGGAATACCCAACCAAGGGGGTATCCTTTACTCCTCACTAGAGTACTTCGAAAAAGCCCTGGAGGAGCTGGCAGCAGCGTTTCGGGTGA
182
AACCTTATGGGTGGTTCCTCCCATAGGAAATGAGGAGTGATCTCATGAAGCTTTTTCGGGACCTCTCGACCGTCGTGCGAAAGGCCCACT
HTCC1
I G I P N Q G G I L Y S S L E Y F E K A L E E L A A A F P G O
TGGCTGGTTAGGTTTCGGCCGGGACAAATACGCCGGCAAAACCGCAACCAACGTAATTTTTCCAGGAAGTGGCAGACCTCGATCGTCAG
273
ACCGACCAATCCAAGCCGGCCCTGTTTATGCGGCCGTTTTGGCGTTGGTGCACCTAAAAAGGTCTTGACCGTCTGGAGCTAGCAGTC
HTCC1
G W L G S A A D K Y A G K N R N H V N F F O E L A O L O R O
CTCATCAGCCTGATCCACGACCAAGGCCAACGGGTCCAGACGACCCGGGACAAGCTTATCCTGGAGGGCGCCAAGAAAGGTCTCGAGTTCC
384
GAGTAGTCGGACTAGGTGCTGGTCCGGTTGCGCCAGGTCTGCTGGGCGCTGTTTGAATAGGACCTCCCGCGGTCTTTCCAGAGCTCAAGC
HTCC1 Hind3 DELETED
L I S L I H D O A N A V Q T T R D K L I L E G A K K G L E F
TGCGCCCGGTGGCTGTGGACCTGACCTACATCCCGGTCTGTCGGGCACGCCCTATCGGCCGCTTCCAGGCGCCGTTTTGCGCGGGCGCGAT
455
ACGCGGGCCACCGACACCTGGACTGGATGTAGGGCCAGCAGCCGTGCGGGATAGCCGGCGGAAGGTCCGCGGCAAAACGCGCCCGCGCTA
DELETED
V R P V A V O L T Y I P V V G H A L S A A F Q A P F C A G A M
GGCCGTAGTGGGCGCGCGCTTGCTACTTGGTCTGTGAAAACGCTGATCAACGCGACTCAACTCTCAAATTGCTTGCCAAATTGGCGGAG
546
CCGGCATCACCCGCGCGGAACGGATGAACAGCACTTTTGGACTAGTTGCGCTGAGTTGAGGAGTTTAACGAACGGTTTAACCGCCTC
DELETED
A V V G G A L A Y L V V K T L I N A T Q L L K L L A K L A E
TTGGTCCGCGCGCCATTGCGGACATCATTTCCGATGTGGCGGACATCATCAAGGGCATCGTCGGAGAAGTGTGGGAGTTTCATCACAACG
637
AACCAGCGCGCGCGTAACGCCCTGTAGTAAAGCCTACACCGCTGTAGTACTTCCCGTAGGAGCTCTTCACACCTCAAGTAGTGTTCG
DELETED
L V A A A I A O I I S D V A D I I K G I L G E V W E F I T N
CGAAGCTTCTCAACGGCCTGAAAGAGCTTTGGGACAAGCTCACGGGTGGGTGACCGGACTGTTCTCTCGAGGGTGGTCAACCTGGAGTC
728
GCTTCGAAGAGTTGCCGGACTTTCTCGAAACCTGTTTCGAGTGCCCAACCACTGGCCTGACAAGAGAGCTCCACACAGCTTGGACCTCAG
Hind3 HTCC1
A K L L N G L K E L W O K L T G W V T G L F S R G W S N L E S
CTTCTTTGCGGGCGTCCCGGCTTGACCGCGCGACCAAGCGCTTGTGCGAAGTACTGGCTTGTTCGGTGGCGCGGCTGTGTCGCGATCG
819
GAAGAAACGCGCGCAGGGGCGAACTGGCCGCGCTGGTTCGCGCAACAGCGTTCACTGACCGAACAAGCCACGCGCGGCGACAGCGGTAGC
HTCC1
F F A G V P G L T G A T S G L S O V T G L F C A A G L S A S

FIG. 9d

Friday, July 23, 1999 8:41 AM

Page 2

htCC1(h)-TM2 Mac.MPD (1 > 1225) Sequence

```
TCGGGCTTGGCTCACGCGGATAGCCTGGCGAGCTCAGCCAGCTTGCCCCCCTGGCCGGCATTGGGGGGGGSTCCGGTTTTGGGGGCTTGC
AGCCCCAACCAGTGCGCCATATCGGACCGCTCGAGTCGGTCCAACGGGCGGGACCGGCCGTAACCCCGGCCAGGCCAAAACCCCGAACG
S:10
-----htCC1-----
S G L A H A D S L A S S A S L P A L A G I G G G S G F G G L
CGAGCCTGGCTCAGGTCCATGCCGCCCTCAACTGGCAGGCGCTACGGCCCCGAGCTGATGCCCGGTGGGGCGCGCTGCCGAGCAGGTCCG
1001
GCTCGGACCGAGTCCAGGTACGGCGGAGTTGAGCCGTCCCGCATGCCGGGGCTCGACTACCGGGCCAGCCGCGGCGAGGCTCGTCCAGCC
-----htCC1-----
P S L A Q V H A A S T R Q A L R P R A D G P V G A A A E Q V G
CGGGCAGTCGCAGCTGGTCTCCGCGCAGGGTTCCCAAGGTATGGGCGGACCCGTAGGCATGGCGCGCATGCACCCCTCTTCGGGGGGCGTCG
1092
GCCCCGCAGCGTCGACCAGAGGCGCGTCCCAAGGGTTCCATACCCGCCGTGGGCATCCGTACCCGCGGTACGTGGGGAGAAGCCCCCGCAGC
-----htCC1-----
G Q S Q L V S A Q G S Q G M G G P V G M G G M H P S S G A S
AAAGGGACGACGACGAAGAAGTACTCGGAAGGCGCGGGCGGGCACTGAAGACGCGAGCGCGGCCAGTCGAAGCTGACCGGGGCGGTG
1183
TTTCCCTGCTGCTGCTTCTTCATGAGCCTTCGCGCGCGCGCCGCTGACTTCTGCGGCTCGCGCGCGGTACGCTTCGACTGCGCCCCGCCAC
-----htCC1-----
K G T T T X X Y S E G A A A G T E O A E R A P V E A D A G G
GGCAAAAGGTGCTGGTACGAAACGTCTCTAACGGCGAATTC
1225
CCGTTTTCCACGACCATGCTTTGCAGCAGATTGCCGCTTAAG
-----htCC1----- EcoRI
G Q X V L V R N V V . R R I
```

FIG. 9d

Monday, July 25, 1999 2:45 PM

ht(184-392)-H9-ht(1-200).mpd (1 > 24) Sequence

Enzymes: 3 of 315 enzymes (Filtered)

Settings: Linear, Certain Sites Only, Standard Genetic Code

Page 1

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CATATGCATCACCATCACCATCAGCATGTGGCGGACATCATCAAGGGCATCTCGGAGAAGTGTGGGAGTTTCATCACAACGGGCTCAACGGCCTGAAGG
GTATACGTAGTGGTAGTGGTAGTGTCTACACCCCTGTAGTAGTTCCTAGGAGGCTTTCACACCCCTCAAGTAGTGTTCGGCGAGTTGCCGGACTTTC
|----- Met / HIS TAG -----| hTCC1 (184-392)
H H H H H H H H O V A D I I K G I L G E V W E F I T N A L N G L K
AGCFTTGGGACAAGCTCACGGGCTGGGTGACGGGACGTTCCTCGAGGGTGGTCCAACTGGAGTCTCTTTCGGGCGCTCCCGGGCTTGACCGGGCG
TCGAAACCTGTTCGAGTCCCCACCCACGTGGCCTGACAAGAGAGCTCCACCAGCTTGGACCTCAGGAAGAAACGCCCGCAGGGCGGCGAACTGGCGCGG
hTCC1 (184-392)
E L W O X L T G W V T G L F S R G W S N L E S F F A G V P C L T G A
GACCAGCGGCTTGTTCGCAAGTACTGGCTTGTTCGGTGGCGGGCTGTGTCCGCATCGTGGGCTTGGCTCACCGGATAGCCTGGCGAGCTCAGCCAGC
CTGGTCCGCCAACACCGTTCACTGACCGAACAAGCCAGCGCGGCCAGACAGGCGTAGCAGCCCGAACCGAGTGGCGCTATCGGACCGCTCGAGTGGGTGG
hTCC1 (184-392)
T S G L S Q V T G L F G A A G L S A S S G L A H A O S L A S S A S
TTGCCCGCCCTGGCGGGCATTTGGGGGGGGTTCGGGTTTGGGGGCTTCCGAGCCTGGCTCAGGTCCAATGCCGCTCAACTCGGCAGGCGCTACGGCCCG
AACGGGCGGGACCGCGCTAACCCCGGCCAGGCCAAAACCCCGAACGGCTCGGACCGAGTCCAGGTACGGCGGAGTTGAGCGCTCCGCGATGCCGGGG
hTCC1 (184-392)
L P A L A G I G G G S G F G G L P S L A Q V H A A S T R O A L R P
GAGCTGATGGCCCGTCCCGCCCGCTGCCGAGCAGGTGGCGGGCAGTCCGAGCTGGTCTCCGCGCAGGGTTCCCAAGGTATGGGCGGACCCGTAGGCAT
CTCGACTACCGGGCCAGCGCGGGGACGGCTCGTCCAGCGCGCCGTCAGCGTCGACCAGAGGGCGGTCCCAAGGGTTCCATACCCGCTGGGCATCCGTA
hTCC1 (184-392)
R A D G P V G A A A E O V G G Q S O L V S A Q G S O G N G G P V G H
GGCGGGCATGCACCCCTCTTCGGGGGGCTCGAAAGGACGACGACGAAGAAGTACTCGGAAGGGCGGGCGGGCGGCACTGAAGACGCCGACCGCGCGCCA
CCCGCGTACGTGGGAGAGAAGCCCCCGCAGCTTTCCTGCTGCTGCTTCTTCATCAGCCTTCCCGCGCGCGCCCGTGACTTCTGGGGCTCGCGCGGGT
hTCC1 (184-392)
G G M H P S S G A S K G T T T X X Y S E G A A A G T E O A E R A P
GTCAAGCTGACGCGGGCGGTGGGCAAAAGGTGCTGGTACGAAACGTCGTGCAATTCATGGTGGATTTCGGGGCGTTACCACCGGAGATCAACTCCGCGA
CAGCTTCGACTGCGCCCGCCACCCGTTTCCACGACCATGCTTTGCAGCAGCTTAAGTACCACCTAAAGCCCCGCAATGGTGGCCTCTAGTTGAGGCGCT
hTCC1 (184-392) EcoRI Tbh9
V E A O A C G G O K V L Y R N V V E F H V O F G A L P P E I N S A
GGATGTACGCGGGCCGGTTCGGCTCGCTGGTGGCGCGGCTCAGATGTGGGACAGCGTGGCGAGTGACCTGTTTTTCGGCGCGCTCGGCGTTTCAGTC
CCTACATGCGGGCGGGCCCAAGCCGGAGCGACCACCGCGCGGAGTCTACCCCTGTCGACCGCTCACTGGACAAAAGCCGCGCAGCCGCAAGTCAG
Tbh9
R M Y A G P G S A S L V A A A Q M W D S Y A S O L F S A A S A F Q S
GGTGGTCTGGGCTGTGACGGTGGGGTGGTGGATAGGTTCTGTCGGCGGGTCTGATGGTGGCGGGCGGCTCGCGGTATGTGGCGTGGATGAGCGTCAACCGG
CCACCAGACCCAGACTGCCACCCAGCACCTATCCAAGCAGCGCCGAGACTACCACCGCCCGGAGCGGCATACACCGCACCTACTCGCAGTGGCCCG
Tbh9
V V W G L T V G S W I G S S A G L M V A A A S P Y V A W H S V T A
```

FIG. 12

Monday, July 26, 1999 2:43 PM

7184-3921-H9-h1-1-2001.mcd (1 of 244)

Is and Sequence

Page 2

GGGCAGGCGGAGCTGACCGCGCGCCAGGTCGGGTTGCTGCGCGCGCTACGAGACGGCGTATGGGCTGACGGTGGCGCGCGCGGTGATCGCCGACAACC
CCGCTCCGGCTCGACTGCGCGCGGGTCCAGGCCCAACGACGCGCGCGGATGCTCTGCCCGATACCGGACTGCTACGGGGCGCGCTACTAGCGGCTCTTGG
TbH9
G Q A E L T A A O V R Y A A A A Y E T A Y G L T Y P P P V I A E N
CTGCTGAAGTATGATGATCTGATAGCGACCAACCTCTTGGGGCAAAACACCGCGCGATCGCGGTCAACGAGGCGCAATACGGCGAGATCTGGCCCAACA
CAGGACTTGACTACTAAGACTATCGCTGGTGGAGAACCCTCTTGGGGCGCGCTAGCGCGAGTTGCTCCGGCTTATCCCGCTCTACACCGGGTTCT
TbH9
R A E L M I L I A T N L L G Q N T P A I A V N E A E Y G E M W A Q O
CGCGCGCGCGATGTTTGGCTACGCGCGCGCGGACGGCGACGGCGACGCTTGCTGCGGTTGAGGAGGCGCGCGGAGATGACCAGCGCGGTGGGCTC
GCGGCGCGCGCTACAAACCGATGCGCGCGCGCTGCGCTGCGCGTCCGCTGCAACGACGGCAAGCTCCTCCCGCGCTCTACTGGTCGCGCCACCGGAG
TbH9
A A A M P G Y A A A T A T A T L L P F E E A P E M T S A G C L
CTCGAGCAGCGCGCGCGCTCGAGGAGGCTTCGACACCGCGCGCGCAACGAGTTGATGAACAATGTGCGCCAGGCGCTGCAACAGCTGGCCCAAGCCCA
GAGCTCGTCCGGCGCGCGCAGCTCTCCGGAGGCTGTGGCGCGCGCGCTTGGTCAACTACTGTTACACGGGTCGCGGACGTTGTGACCGGGTCGGGT
TbH9
L E Q A A A V E E A S O T A A A N Q L M N N Y P Q A L O Q L A Q P
CGCAGGCGACCAACGCTTCTTCCAAGTGGGTGCGCTGTGGAAGACGGTCTGCGCGCATCGGTGCGCGATCAGCAACATCGTGTGATGCGCAACAACCA
GCGTCCCGTGGTGGGAAGAAGGTTGACCCACCGGACACCTTCTGCCAGAGCGCGGTAGCCAGCGGCTAGTCGTTGTACCACAGCTACCGGTGTTGTTGGT
TbH9
T O G T T P S S X L G G L W X T V S P H R S P I S N M V S M A N N H
CATGTGATGACCAACTCGGGTGTGCTGATGACCAACACCTTGAGCTCGATGTTGAAGGGCTTGTCTCCGGCGCGCGCGCGCCAGGCGGTGCAAAACCGCG
GTACAGCTACTGGTTGAGCCACACAGCTACTGGTTGTGGAAGTCAAGCTTCCGAAACGAGGCGCGCGCGCGGTCCGGGACGTTTGGCGC
TbH9
M S M T N S G V S M T N T L S S M L K G F A P A A A A Q A V Q T A
GCGCAAAACGGGTCCGGCGGATGAGCTCGCTGGGACGCTCGCTGGGTTCTTGGGTCTGGGCGGTGGGGTGGCGCGCAACTTGGGTGGGCGGGCTCGG
CGCGTTTGGCGCGCGCGCTACTCGAGCGACCGCTCGAGCGACCAAGAGCCAGACCGCGCACCGCGGCGGTGAACCCAGCGCGCGGAGCC
TbH9
A Q N G V R A M S S L G S S L G S S G L G G G V A A M L G R A A S
TCGTTCTGTTGCGGTGCGCAGGCGCTGCGCGCGCGCAACAGGCGAGTACCGCGCGCGCGCGCGCGCTGCGGCTGACGAGCTGACGCGCGCGGGA
AGCCAAGCAACAGCCAGCGGCTCCGGACCGCGCGCGGTTGGTCCGTCACTGGGCT
TbH9
V G S L S Y P Q A W A A A N Q A V T P A A R A L P L T S L T S A A E
AAGAGGCGCGCGCGCGATGCTGGGCGGGCTGCGGCTGGGCGAGATGGGCGCAGGCGCGGTGGTGGGCTCAGTGGTGTGCTGCGTGTTCGCGCGCGACCC
TTCCTCCGGCGCGCTTACGACCCGCGCGCGCGCGCTTACCGCGGTCCCGCTGGG
TbH9
R G P G Q M L G G L P V G Q M G A R A G G G L S G Y L R V P P R P
TATGTATGCGCGATTTCTCCGGCAGCGCGGATATCATGAGCAGCGGTTTCATCATGATCCAACGATCAGTGCCATTGACGCGCTGTACGACCTTCTGG
ATACACTACGGCGTAAGAGGCGGTGCGCGCTATAGTACTCGTCTCGCAAGTAGTAGCTAGGTTGCTAGTCACGGTAAGTCCCAACATGTGGAAGACC
TbH9 RV HTCC1 (1-200)
Y V M P H S P A A G D I M S R A F I I D P T I S A I D G L Y O L L

FIG. 12

Monday, July 28, 1999 2:45 PM

Page 2

N1343921-H9-n1(1-200).mod (1 > 244)

File # Sequence

```
GGATTGGAATACCCAACCAAGGGGGTATCCTTTACTCCTCACTAGAGTACTTCGAAAAAGCCCTGGAGGAGCTGGCAGCAGCGTTTCGGGGTGATGGCTG
2000
CCTAACCTTATGGGTTGGTTCCCCCATAGGAAATGAGGAGTGATCTCATGAAGCTTTTTCGGGACCTCCTCGACCGTCTCGCAAGGCCCACTACCGAC
HTCC1 (1-200)
G I G I P N O G G I L Y S S L E Y F E K A L E E L A A A F P, G D G V
GTTAGGTTTCGGGCGGGGACAAATACGCCGGCAAAAACCGCAACCACGTGAATTTTTCAGGAACCTGGCAGACCTCGATCGTCAGCTCATCAGCCTGATC
2100
CAATCCAAGCCGGCGCTGTTTATGCGGCGGTTTTTGGCCTTGGTGCACITAAAAAAGGTCTCTGACCGTCTGGAGCTAGCAGTCCAGTACTCGGACTAG
HTCC1 (1-200)
L G S A A D K Y A G K N R N H V N F F Q E L A D L D R O L I S L I
CAGGACCAGGCCAACCGGTCAGACGACCCGGACATCCTGGAGGGGCCCAAGAAAGGTCTCGAGTTCTGTCGGCCCGGTGGCTGTGGACCTGACCTACA
2200
GTGCTGCTCCGGTTGCGCCAGGTCTGCTGGGCCCTGTAGGACCTCCCGCGGTTCTTTCCAGAGCTCAAGCAGCGGGCCACCGACACTGGACTGGATGT
HTCC1 (1-200)
H D Q A N A V Q T T R O I L E G A X X G L E F V R P V A V O L T Y
TCCCGGTCGTCGGGCACGCCCTATCGGCCGCCCTTCCAGGCGCCGTTTTGCGCGGGCGCGATGGCCGTAGTGGCGGGCGCGCTTGCCCTACTTGGTCGTGAA
2300
AGGCGCAGCAGCCCGTGGGGATAGCCGGCGGAAGGTCCGCGGCAAAACGCGCCCGCTACCGGCATCACCCCGCGCGGAACGGATGAACAGCACTT
HTCC1 (1-200)
I P V V G H A L S A A F Q A P F C A G A M A V V G G A L A Y L V V K
AACGCTGATCAACCCCACTCAACTCCTCAAATTGCTTGCCAAATTGGCGGAGTTGGTTCGGGGCCGCCATTGCGGACATCATTTCCGATGTGGCGGACATC
2400
TTGCGGACTAGTTGCGCTGAGTTGAGGAGTTTAACGAACGTTTAACCGCCTCAACCAGCGCCCGCGGTAACGCTGTAGTAAAGCCTACACCGCCTGTAG
HTCC1 (1-200)
T L I N A T Q L L K L L A X L A E L V A A A I A D I I S D V A C I
ATCAAGGGCATCCTCGGAGAAGTGTGGGAGTTTCATCTAAGATATC 2445
TAGTTCCCGTAGGAGCCTCTTCACACCCCTCAAGTAGATTCTATAG
HTCC1 (1-200) RV
I K G I L G E V W E F I D I
```

FIG. 12